

lb Review rules for derivatives

memorize basic formulas

pay attention to notation

$$\frac{d}{dx} \ln u = \frac{1}{u} \frac{du}{dx}$$

out in der of out der of in

or

$$\frac{d}{dt} \ln x = \frac{1}{x} \frac{dx}{dt}$$

$$\frac{d}{dx} \ln x = \frac{1}{x} \frac{dx}{dx} = \frac{1}{x}$$

errors

~~$$\frac{1}{x} \frac{du}{dx}$$

$$\frac{1}{x} \frac{dx}{dt}$$

$$\frac{1}{x} \frac{dy}{dx}$$~~

another

version of chain rule

$$h(x) = f(g(x)) \quad h'(x) = g'(x) f'(g(x))$$

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x	f(x)	g(x)	f'(x)	g'(x)
1	-2	3	7	1
3	4	-1	2	8

if $h(x) = f(g(x))$

find $h'(1) = g'(1) f'(g(1)) = 1 \cdot f'(3) = 2$

$$h'(x) = g'(x) f'(g(x))$$

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